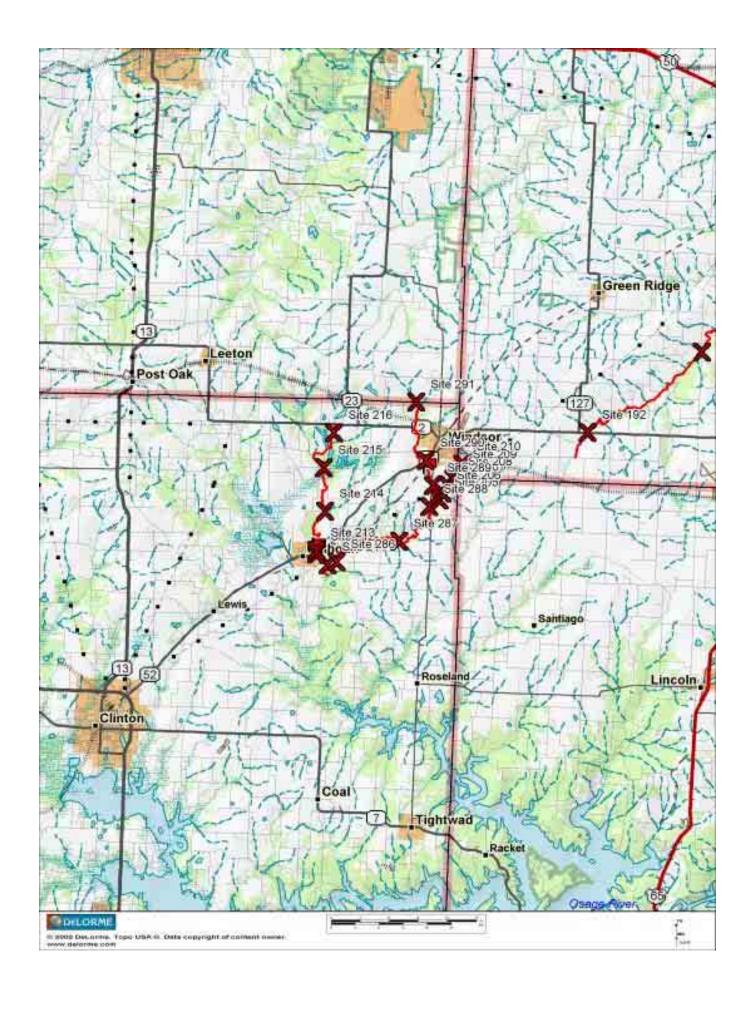
Use Attainability Analysis

for

WBID 1284 Middle Fork Tebo Creek

Submitted by Tetra Tech, Inc

To Missouri Department of Natural Resources Water Protection Program



Field Data Sheets for Recreational Use Stream Surveys RECEIVED

Data Sheet A - Water Body Identification 2005 MAY 23 PM 2: 58

Date: 04 20 05

| Water Body Name: | WATER PROTECTION PROGRAM |
|---|---------------------------------------|
| (from USGS 7.5' quad) MIDDLE FORK TEBO CREEK (211-216) | |
| } . | |
| 8-digit HUC: 10240108 | |
| Missouri WBID #: 1284 | |
| County: HENRY | · |
| Upstream Legal Description: | |
| Downstream Legal Description: | · · · · · · · · · · · · · · · · · · · |
| Upstream Coordinates: | |
| (UGS 84, ddd.ddddd) N 38.54389 W043. 60213 | - |
| Downstream Coordinates: (UGS 84, ddd.dddd) | |
| Discharger Facility Name(s): MIDDLE FOAK TEED CAEEK | |
| Discharger Permit Number(s): | |
| Number of Sites Evaluated: 6 | |
| Name of Surveyor and Telephone Number: CHAD BARBOUK, 410-356-8993 | |
| Organization: TETMA TECH INC. | |
| Position: ASSOCIATE SCHENTIST | |
| • | |
| the undersigned, hereby affirm to the best of my knowledge, that all in | formation reported on this UAA |
| tasheet is true and accurate. | |
| Л | |
| 00100 | |

Field Data Sheets for Recreational Use Stream Surveys

2005 MAY 23 PM 2: 58

Data Sheet B - Site Characterization

PROGRAM

| - 1 | | 211/Alternati | | () netvent | escription: M of Rt 52 c | wenpass |
|---------|---|--|--|---|---|--|
| (1A) | Site GPS Coordinates: | √38.46959 W | 093,61734 | Opsilear | | • |
| | Date & Time: 4 - 20 | | * | | Middle FK Teb | o CR |
| | | LY. | | Permit Number: | | |
| | Current Weather Conditi | ons: Overcast | 75° | Weather Conditi | ions for Past 7 days: Clea | r warm |
| | Photo Ids: Upstream: | | nstream: 17 | 35A 011 Othe | | |
| Use | es Observed*: | ces | | cub | | <u></u> |
| | ☐ Swimming | ☐ Skin diving | □ sci | JBA diving | ☐ Tubing | ☐ Water skiing |
| | ☐ Wind surfing | ☐ Kayaking | □ Воа | iting | □ Wading | ☐ Rafting |
| | ☐ Hunting | ☐ Trapping | ☐ Fish | ing | None of the above | ☐ Other: |
| | D 2 C 1 1 | | | C 1 · | 1 | |
| | | tment pla | nt on | Right bar | nk of reach | |
| Sur | Sewage treat | t ment plan | nt on | Right bar | ases. Attach photos of eviden | nce or unusual |
| Sur | rrounding Conditions of interest.) City/county parks | ns*: (Mark all that p | romote or im | Right bar | uses. Attach photos of eviden | nce or unusual Campgrounds |
| Sur | rrounding Conditions of interest.) City/county parks Boating accesses | ns*: (Mark all that p | romote or imp | Right bar | uses. Attach photos of eviden | nce or unusual □ Campgrounds □ Stairs/walkway |
| Suritem | rrounding Conditions of interest.) City/county parks Boating accesses No trespass sign | 1s*: (Mark all that p Playgrounds State parks | romote or im | Right bar | uses. Attach photos of eviden | nce or unusual □ Campgrounds □ Stairs/walkway |
| Suritem | rrounding Conditions of interest.) City/county parks Boating accesses No trespass sign | ns*: (Mark all that p Playgrounds State parks Fence | romote or imp | Right bar pede recreational unservation lands forests | uses. Attach photos of evidence Urban areas Under trails | Campgrounds ☐ Stairs/walkway |
| Suritem | rrounding Conditions of interest.) City/county parks Boating accesses No trespass sign idence of Human Us | ns*: (Mark all that p Playgrounds State parks Fence | romote or important on the control of the control o | Right bar | uses. Attach photos of evider Urban areas Nature trails Other: STP, Fand | Campgrounds ☐ Stairs/walkway |
| Suritem | rrounding Conditions of interest.) City/county parks Boating accesses No trespass sign | ns*: (Mark all that p Playgrounds State parks Fence | romote or important on the control of the control o | Right bar pede recreational unservation lands forests | uses. Attach photos of evidence Urban areas Under trails | nce or unusual □ Campgrounds □ Stairs/walkway |

Page Two - Data Sheet B for WBID # 211 /AI+ :

| □ Riffle Wid | th (ft): | ensions: in m. Length (ft): | 0,25, 52, 86, 1.0, Avg. Depth (ft): | Max. Depth (ft): |
|--|---|--|--|--|
| | th (ft): | Length (ft): | Avg. Depth (ft): | Max. Depth (ft): |
| | 154 | Length (ft): 20 | A- A- | |
| | 0 10 111 | | Avg. Depth (fc): (). (o(Estimated (ft ³ /sec): | m Max. Depth (ti): 1,5 |
| ☑ Flow Pres | ent? ☐ Yes | No. | Estimated (117800). | |
| Downstream \ | View Physical D | imensions: 📊 | m: ,08, .18, .25 | , ,22 , . 08 |
| | th (ft): | Length (ft): | Avg. Depth (ft): | Max. Depth (ft): |
| Run Wid | th (10): 3.1m | Length (tt): 20 | M Avg. Depth (O.16: | 2 m Max. Depth (R): 0. 35 m |
| □ Pool Wid | th (ft): | Length (ft): | Avg. Depth (ft): | Max. Depth (ft): |
| 12 Flow Pres | ent? Yes | □ No | Estimated (ft³/sec): 3 _m | |
| hetroto** (The | se values should ad | d vm to 100%) | 3m 03-065 11 | -155 20-245 45 45 |
| 0 % Cob | | Gravel O | % Sand 20 % Silt | 30% Mud/Clay 0 % Bedroo |
| | | | | |
| uatic Vegetat | ion*: (note amoun | t of vegetation or al | gal growth at the assessment site) | |
| None | | | | |
| ater Characte | ristics*: (Mark al | l that apply.) | | |
| Odor: | ☐ Sewage | ☐ Musky | ☐ Chemical None | ☐ Other: |
| Color: | Ď Clear | ☐ Green | ☐ Gray ☐ Milky | ☐ Other: |
| Bottom Deposit | □ Sludge | □ Solids | ☐ Fine sediments ☐ None | ☐ Other: |
| Surface Deposit | : 🗆 Oil | □ Scum | □ Foam \ \ \ \ \ \ \ \ \ None | Other: |
| his information is mprehensive unde | not to be used sole! rstanding of water of | y for removal of a reconditions. Consequ | ncluding information from in ecreational use designation but rat ently, this information is not inten- ditions that need further analysis o | her is to provide a more ided to directly influence a |
| _ | ed, hereby affir and accurate. | m to the best of | my knowledge, that all info | ormation reported on this UAA |
| gned: | Non | | Date:04->∂ | 1-05 |
| ganization: | TETRA TECH | IM. | | THIS CIENTAST |
| | | | | |
| September : | ł | Chypleth | Lee Yarbrough 4 | -20-2005 |





Field Data Sheets for Recreational Use Stream Sur

Data Sheet B - Site Characterization

2005 MAY 23 PM 2: 58

| ļ | Missouri WBID #: | <u> </u> | | Site Location De | | مصمم ۸ |
|------|---|---|-----------------|--|---|--|
| 264 | Site GPS Coordinates: A | 138.46761 WO | 3.61 | 589 Clown Stree | am 500m Rt 51 | 0 overpass |
| | Date & Time: 4-20 | -05 11:35 | | | Middle FK Teb | o CR |
| | | Sarbour E, L | ee Yo | Permit Number: | | |
| | Current Weather Conditi | | 75 | / | ons for Past 7 days: | ar warm |
| Ī | Photo Ids: Upstream: | | nstrean | n: 1734A CIO Other | | 200 111 |
| Us | es Observed*: | CO | | CGB | · , · | |
| | | ☐ Skin diving | | ☐ SCUBA diving | ☐ Tubing | ☐ Water skiing |
| | ☐ Wind surfing | ☐ Kayaking | ı | □ Boating | ☐ Wading | ☐ Rafting |
| | ☐ Hunting | ☐ Trapping | | ☐ Fishing | ☑ None of the above | ☐ Other: |
| Sn | rrounding Condition | ns*• (Mark all that | ararose - | or impade regressional y | inger Attach whaten of a vide | |
| | ns of interest.) | | 1 | | ses. Attach photos of evider | |
| | | ns*: (Mark all that p | 1 | e or impede recreational u DC conservation lands | ises. Attach photos of evider | nce or unusual |
| | ns of interest.) | | □м | | ☐ Urban areas ☐ Nature trails | ☐ Campgrounds ☐ Stairs/walkway |
| | ns of interest.) □ City/county parks | ☐ Playgrounds | □ M | DC conservation lands | ☐ Urban areas | ☐ Campgrounds ☐ Stairs/walkway |
| iter | ns of interest.) ☐ City/county parks ☐ Boating accesses | ☐ Playgrounds ☐ State parks ☐ Fence | □ M | DC conservation lands | ☐ Urban areas ☐ Nature trails | ☐ Campgrounds ☐ Stairs/walkway |
| iter | ns of interest.) ☐ City/county parks ☐ Boating accesses ☐ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | □ Mı □ Na □ Ste | DC conservation lands | ☐ Urban areas ☐ Nature trails | □ Campgrounds □ Stairs/walkway grass Field |
| iter | ns of interest.) ☐ City/county parks ☐ Boating accesses ☐ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | □ M □ Na □ Ste | DC conservation lands ational forests cep slopes | ☐ Urban areas ☐ Nature trails ☑ Other: Forcest | □ Campgrounds □ Stairs/walkway grass field |
| iter | ms of interest.) ☐ City/county parks ☐ Boating accesses ☐ No trespass sign ridence of Human Us ☐ Roads | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/prin | □ M □ Na □ Ste | DC conservation lands ational forests cep slopes | ☐ Urban areas ☐ Nature trails ☑ Other: forcest, | ☐ Campgrounds ☐ Stairs/walkway grass Field ☐ RV/ATV Track |
| Ev | ms of interest.) □ City/county parks □ Boating accesses □ No trespass sign ridence of Human Us □ Roads □ Rope swings □ Other: | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/prin ☐ Camping Sites | ☐ Ma | DC conservation lands ational forests eep slopes Dock/platform Fire pit/ring | ☐ Urban areas ☐ Nature trails ☑ Other: forcest ☐ Livestock Watering ☐ NPDES Discharge | ☐ Campgrounds ☐ Stairs/walkway arass field ☐ RV/ATV Trackle |
| Ev | ms of interest.) □ City/county parks □ Boating accesses □ No trespass sign ridence of Human Us □ Roads □ Rope swings □ Other: | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/pring ☐ Camping Sites Attach a map of | ☐ M ☐ Na ☐ Ste | DC conservation lands ational forests eep slopes Dock/platform Fire pit/ring segment with assessi | ☐ Urban areas ☐ Nature trails ☑ Other: forcest, | ☐ Campgrounds ☐ Stairs/walkway arass field ☐ RV/ATV Track |

Page Two - Data Sheet B for WBID # 212:

| Stream Morpholog Upstream View | ,·• | nensions: ˈ[// // | 11.0934 . | .4544 | 26 | |
|---|---|--|---|--|---|--------------|
| □ Riffle Width | | Length (ft): | Avg. Depth | | Max. Depth (ft): | |
| Run Width | 1 5.8 M | Length (fix: 2 | Avg. Depth | (m): 0.316n | Max. Depth (1): 0.45 | |
| □ Pool Width | | Length (ft): | Avg. Depth | | Max. Depth (ft): | •1 |
| Flow Presen | t? 🗹 Yes | □ No | Estimated (f | | 10.65 = 0.30 m | 15 |
| Downstream Vi | ew Physical | Dimensions: 🚡 | • | | 55-45₅ 8 .58 | |
| □ Riffle Width | | Length (ft): | Avg. Depth | | Max. Depth (ft): | |
| □ Run Width | (ft): | Length (ft): | Avg. Depth | (ft): | Max. Depth (ft): | |
| ⊠ Pool Width | 1,2m | Length (fil): 3 | Of + Avg. Depth | (N) () 55 m | Max. Depth (1): 0.75 | |
| Flow Presen | | □ No | Estimated (f | t ³ /sec): 3m/ | | 1 |
| | | | 3m 38- | 59 05,73 | 22 28-46 | ' |
| ubstrate*: (These | | dd up to 100%.) Gravel | % Sand | % Silt 55 | % Mud/Clay / % B | edrock |
| | <u> 10 %</u> | Giarci () | 70 Bailet 1_) | # 3m <u>35</u> | 70 Midd/Clay 0 70 B | eurock |
| Vater Characteri | stics*: (Mark | | ☐ Chemical | ⊠ None | | |
| Color: | | ☐ Musky | ··· | | Other: | |
| Bottom Deposit: | □ Clear | ☐ Green | ☐ Gray | ⊠ Milky | Other: | |
| | □ Sludge | ☐ Solids | Fine sediments | □ None | Other: | |
| Surface Deposit: | ⊠ Oil | □ Scum | ☐ Foam | □ None | Other: | |
| This information is no omprehensive underst ecision on the recreati | nt to be used sol anding of water on use analysis | ely for removal of a conditions. Conse but may point to co | recreational use design quently, this information anditions that need furth | nation but rather i on is not intended ner analysis or tha | to directly influence a it effect another use. | T.A. A. |
| atasheet is true a | | | n my knowieage, i | nat all inform | nation reported on this U | AA |
| igned:_ $\mathcal{O}_{\mathcal{L}}$ | 15 RM | | Date: | 04/20115 | | |
| rganization: Te | TRA Too | y Jac. | | • | | |
| - - | Elm | saleth Lee | Yarbrovey | 4-20 | 1-2005 | |
| September 29 | | | • | | Page 19 | |





Field Data Sheets for Recreational Use Stream Surveys RECEIVED

Data Sheet B - Site Characterization

2005 MAY 23 PM 2: 58

(A separate data sheet must be completed for each site) WATER PROTECTION PROGRAM

| Date & Time: U - 20 - 05 1100 Facility Name: M; Adde Fk Tebo CR | | Missouri WBID #: 21 | 2 | | Site Location D | escription: ()warmes / | ארי אות אייוני |
|--|-------------|--|--|---|--|--|---|
| Date & Time: 1-20-05 100 Facility Name: Middle Fk Tebo CR | .1 | | <u> </u> | | | cent range construction | 0. 34 |
| Personnel: Chad barbour Lee Yarbrough Current Weather Conditions: Charast 740 Weather Conditions for Past 7 days: Clific, ware Photo Ids: Upstream: 754 607 Downstream: 1732 503 Other: Uses Observed*: Swimming | + | Date & Time: 11 20 | 55.46622 WO93 | 5.61671 | Facility Name | outill Et m | ~~ |
| Current Weather Conditions: Charast 740 Weather Conditions for Past 7 days: CLAR, WAAA Photo Ids: Upstream: Total 507 Downstream: Total 508 Other: | + | | | 1 . | | | CK |
| Photo Ids: Upstream: 7754 607 Downstream: 1753 | } | | | arbraugh | | | |
| Uses Observed*: Swimming Skin diving SCUBA diving Tubing Water skiing Rafting Cater Skinds Scubard Skinds Scubard Scubard Skinds Scubard Scu | - | | | | | | , WAKA |
| □ Swimming □ Skin diving □ SCUBA diving □ Tubing □ Water skiing □ Wind surfing □ Kayaking □ Boating □ Wading □ Rafting □ Hunting □ Trapping □ Fishing ☑ None of the above □ Other: Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses. Treatment Plant On upstream portion of Reach Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.) □ City/county parks □ Playgrounds □ MDC conservation lands □ Urban areas □ Campgrounds □ Boating accesses □ State parks □ National forests □ Nature trails □ Stairs/walkway □ No trespass sign □ Fence ☑ Steep slopes □ Other: Evidence of Human Use*: Mathing Description De | Ţ | Photo Ids: Upstream: | 751A 60 / Doy | vnstream: † | 732 A Othe | r: | <u> </u> |
| □ Swimming □ Skin diving □ SCUBA diving □ Tubing □ Water skiing □ Wind surfing □ Kayaking □ Boating □ Wading □ Rafting □ Hunting □ Trapping □ Fishing ☑ None of the above □ Other: Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses. Treatment Plant On upstream portion of Reach Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.) □ City/county parks □ Playgrounds □ MDC conservation lands □ Urban areas □ Campgrounds □ Boating accesses □ State parks □ National forests □ Nature trails □ Stairs/walkway □ No trespass sign □ Fence ☑ Steep slopes □ Other: Evidence of Human Use*: March Ma | Use | es Observed*: | | | | | |
| □ Wind surfing □ Kayaking □ Boating □ Wading □ Rafting □ Hunting □ Trapping □ Fishing ☑ None of the above □ Other: Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses. Treatment Plant On upstream Portion of Reach Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.) □ City/county parks □ Playgrounds □ MDC conservation lands □ Urban areas □ Campgrounds □ Boating accesses □ State parks □ National forests □ Nature trails □ Stairs/walkway □ No trespass sign □ Fence ☑ Steep slopes □ Other: Evidence of Human Use*: ☑ Roads □ Foot paths/prints □ Dock/platform □ Livestock Watering □ RV/ATV Tra | | ☐ Swimming | ☐ Skin diving | □ s | CUBA diving | ☐ Tubing | ☐ Water skiing |
| □ Hunting □ Trapping □ Fishing ☑ None of the above □ Other: Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses. Treatment plant on upstream portion of Reach Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.) □ City/county parks □ Playgrounds □ MDC conservation lands □ Urban areas □ Campgrounds □ Boating accesses □ State parks □ National forests □ Nature trails □ Stairs/walkway □ No trespass sign □ Fence ☑ Steep slopes □ Other: Evidence of Human Use*: ☑ Roads □ Foot paths/prints □ Dock/platform □ Livestock Watering □ RV / ATV Tra | | ☐ Wind surfing | ☐ Kayaking | □в | oating | □ Wading | † - - |
| Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses. Treatment plant on upstream portion of Reach Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.) City/county parks Playgrounds MDC conservation lands Urban areas Campgrounds Boating accesses State parks National forests Nature trails Stairs/walkway No trespass sign Fence Steep slopes Other: | | ☐ Hunting | ☐ Trapping | □Fi | shing | | ☐ Other: |
| Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.) City/county parks Playgrounds Not respass sign Fence State parks National forests Nature trails Stairs/walkway City/county parks Not respass sign Fence State parks Not respass sign Fence State parks National forests Other: Evidence of Human Use*: | 1. | | or or morriduals too | iouting, iroq | dency of use, photo- | -documentation of evidence | or recreational uses, e |
| items of interest.) □ City/county parks □ Playgrounds □ MDC conservation lands □ Urban areas □ Campgrounds □ Boating accesses □ State parks □ National forests □ Nature trails □ Stairs/walkway □ No trespass sign □ Fence ☑ Steep slopes □ Other: Evidence of Human Use*: ☑ Roads □ Foot paths/prints □ Dock/platform □ Livestock Watering □ RV / ATV Tra | | reatment pla | ant on up | ostrea) | n Portion | of Keaeh | |
| □ Boating accesses □ State parks □ National forests □ Nature trails □ Stairs/walkway □ No trespass sign □ Fence ✓ Steep slopes □ Other: Evidence of Human Use*: ✓ Roads □ Foot paths/prints □ Dock/platform □ Livestock Watering □ RV / ATV Tra | ~ | | | | | | |
| □ No trespass sign □ Fence ☑ Steep slopes □ Other: Evidence of Human Use*: ☑ Roads □ Foot paths/prints □ Dock/platform □ Livestock Watering □ RV / ATV Tra | Sui | rrounding Condition | | | | | nce or unusual |
| Evidence of Human Use*: Roads | Sui item | rrounding Condition as of interest.) | 18*: (Mark all that p | promote or i | mpede recreational u | nses. Attach photos of evide | 1 |
| ⊠ Roads | Suitem | rrounding Condition as of interest.) City/county parks | Is*: (Mark all that p | promote or in | mpede recreational u | nses. Attach photos of evide | 1 |
| Roads | Suitem | rrounding Condition as of interest.) City/county parks Boating accesses | Is*: (Mark all that p Playgrounds State parks | oromote or in MDC o | npede recreational u onservation lands il forests | uses. Attach photos of evidence Urban areas Nature trails | ☐ Campgrounds |
| | terr | rrounding Condition as of interest.) City/county parks Boating accesses No trespass sign | Is*: (Mark all that p Playgrounds State parks Fence | oromote or in MDC o | npede recreational u onservation lands il forests | uses. Attach photos of evidence Urban areas Nature trails | ☐ Campgrounds |
| Tibring Teent | terr | rrounding Condition as of interest.) City/county parks Boating accesses No trespass sign idence of Human Us | Is*: (Mark all that purchased on the parks of the parks o | oromote or in ☐ MDC o ☐ Nationa ☑ Steep si | mpede recreational u onservation lands Il forests opes | uses. Attach photos of evide | ☐ Campgrounds ☐ Stairs/walkway |
| □ Other: | terr | rrounding Condition as of interest.) City/county parks Boating accesses No trespass sign idence of Human Us Roads | Is*: (Mark all that p Playgrounds State parks Fence Foot paths/prin | Dromote or in MDC of National Steep sints □ | npede recreational u onservation lands il forests opes Dock/platform | uses. Attach photos of evidence. Urban areas Nature trails Other: | ☐ Campgrounds ☐ Stairs/walkway ☐ RV / ATV Track |
| | terr | rrounding Condition as of interest.) City/county parks Boating accesses No trespass sign idence of Human Us | Is*: (Mark all that purchased on the parks of the parks o | oromote or in ☐ MDC o ☐ Nationa ☑ Steep si | mpede recreational u onservation lands Il forests opes | uses. Attach photos of evide | ☐ Campgrounds ☐ Stairs/walkway |

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID # 213 :

| Stream Morpholog Upstream View 1 | | nsions: \n M | | 2030 | 40. 15 | |
|---|---|---|--|--|--|---------------------------------------|
| □ Riffle Width | ' | Length (ft): | Avg. Depth (| ft): | Max. Depth (ft): | |
| Run Width | (): 8-3-m (2) | Length (K): 20 m | Avg. Depth | 10:0.29 m | Max. Depth (ft). 4 | 0_ |
| □ Pool Width (| ft): | Length (ft): | Avg. Depth (| | Max. Depth (ft): | <u> </u> |
| Flow Present | ? BYYes D | J No | Estimated (fr | 3m/2 | 75 = 0.11mls | <u> </u> |
| Downstream Vie | w Physical Di | mensions: .15 | 34 ₅ -05 25 . 25 | .29 | 50 ÷ 14 | · |
| □ Riffle Width | • | Length (ft): | Avg. Depth (| ft): | Max. Depth (ft): | |
| Run Width | 8.3 _m | Length (10:20 m | Avg. Depth (| 1. 0.22m | Max. Depth (1) | 9m |
| □ Pool Width | ft): | Length (ft): | Avg. Depth (| | Max. Depth (ft): | |
| Flow Present | ? ☑Yes [| □ No | Estimated (fi | ~ ~ 100 / 100 | 5 = 0.23 0/5 | } |
| Carl American | | | 30~ 35 -379 | 43-595 | 05-165 | |
| Substrate*: (These | | up to 100%.) ravel 5 | % Sand 30 | % Silt 35 | % Mud/Clay | % Bedrock |
| | | | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | <u></u> | 70 I.I.d. Chay | 70 Deditoer |
| Aquatic Vegetation | *: (note amount | of vegetation or alg | gal growth at the asses | ssment site) | | |
| Water Characteris | tics*: (Mark all | that apply.) | ☐ Chemical | ⊠′None | □ Other: | |
| Color: | □ Clear | Green | ☐ Gray | ☐ Milky | ☐ Other: | |
| Bottom Deposit: | □ Sludge | ☐ Solids | Fine sediments | □ None | Other: | |
| Surface Deposit: | Oil | □ Scum | ☐ Foam | □ None | Other: | · · · · · · · · · · · · · · · · · · · |
| Comments: Please *This information is not comprehensive understa decision on the recreation. I, the undersigned, datasheet is true an | to be used solely nding of water co on use analysis bu hereby affirn | for removal of a re anditions. Consequent t may point to cond | ecreational use design ently, this information litions that need furth | ation but rather is t n is not intended to er analysis or that e | o provide a more directly influence a | is UAA |
| Signed: CLJU Organization: To | = un | | | 04-20-05 1: <u>Associa</u> nt | | • |

MISSOURI RECREATIONAL USE STREAM SURVEY FIELD AUDIT CHECKLIST

| Evaluation Date: 4 - 2 | D- 05 | |
|------------------------|--------------------------------|--------------|
| | Audit Team Member(| (s): |
| Name | Organization | Phone |
| Stacia Bax | MOUR | 573-526-2838 |
| | | |
| Site ID: | Stream Name: 1 8 E | o Creek |
| Field Team Members | | <u> </u> |
| 1 Chad | 3 | 5 |
| 2 49 | 4 | 6 |
| | Other Observers Present During | Evaluation: |
| Name | Organization | Phone |
| · | | |
| | | |
| <u> </u> | | |
| | | |

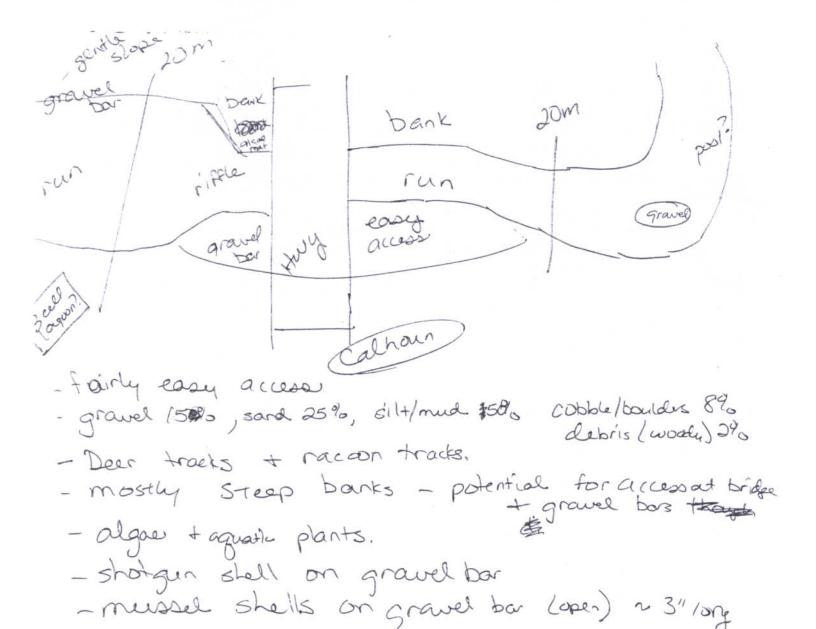
10 57am - 11:29

WATER PROTECTION PROGRAM

Note: No site # recorded on audit sheet. Based on Time recorded above, I determined this site to be #213.

4/27/05 Hyffeth

Tetra Tech, Inc., Owings Mills, MD



protocol

Dik locathor pools vs. runs etc

Distribus area destred coops

| GPS used to obtain fix at or near site? | Y | N | N/A |
|--|------|---|-------|
| GPS data recorded on field form? | 8 | N | N/A |
| Photographs of site taken (if appropriate)? | (1) | N | N/A |
| Placard with site ID printed on it is the first photograph? | Y | N | N/A |
| Picture file number recorded on Field Form? | (V) | N | N/A |
| Mean channel width at X-site determined based on measurement? | (2) | N | N/A |
| Area around site inspected for evidence of primary contact recreational and other human uses? | (Y). | N | N/A |
| Pictures of evidence of uses taken? | Y | N | (N/A) |
| Picture file number recorded on field forms? | Y | N | N/A |
| Measured upstream channel width at representative transect? | Y | N | N/A |
| Measured downstream channel width at representative transect? | Y | N | N/A |
| Measured average depth in upstream portion of the site? | Y | N | N/A |
| Measured maximum depth in downstream portion of the site? | (Y) | N | N/A |
| Was a reasonable effort made to locate deepest point at each site? | Y | N | N/A |
| Velocity measured in the upstream portion of the site using a neutrally buoyant object along measured length timed and recorded correctly for at least three trials? | (Y) | N | N/A |
| Velocity measured in the downstream portion of the site using a neutrally buoyant object along measured length timed and recorded correctly for at least three trials? | (F) | N | N/A |
| Does auditors assessment of substrate types and proportions at the site agree with that of the field team? | Ý | N | N/A |
| Were interviews conducted with available residents? | Y | N | (N/A) |
| Are the field sheets filled out completely and signed at the end of the site assessment? | (2) | N | N/A |
| Did the field team QC officer inspect the field forms for completion prior to leaving the site? | (V) | N | N/A |
| Overall, were the field sampling protocols followed correctly? | Y | N | N/A |
| | | | |

| SIGNATURES | | | |
|------------|-----|------|-------|
| Stocio | Bas | 4 | 20-05 |
| Evaluator | 7 | Date | |

| Team Representative | Date |
|---------------------|------|





RECEIVED

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

2005 MAY 23 PM 2: 59

(A separate data sheet must be completed for each site) WATER PROTECTION PROGRAM

| Missouri WBID#: 21 Site GPS Coordinates: / Date & Time: 4-20-0 Personnel: Chad ford Current Weather Condition Photo Ids: Upstream: † | N 38 49346 W | | | | |
|--|-------------------------------------|-----------------------|--|--|--------------------------------|
| Personnel: Chad ford Current Weather Condition | 5 1015 | 093/00 |)63 | / | |
| Personnel: Chad Cave Current Weather Condition | ``/ | (J22)D | Facility Name: | Butter wut P | middle FKTd |
| Current Weather Condition | hour Lee You | rbroual | Permit Number: | 50,101 00011 | Miguic 1 P |
| Photo Ids: Upstream: | | 30 | | ons for Past 7 days: | co tibian |
| | | vnstream: | 7730 A Ook Other | * | ar, Worm |
| | Cap | | 060 | | . |
| Jses Observed*: | | | | | |
| ☐ Swimming | ☐ Skin diving | | SCUBA diving | ☐ Tubing | ☐ Water skiing |
| ☐ Wind surfing | ☐ Kayaking | | Boating | ☐ Wading | ☐ Rafting |
| ☐ Hunting | ☐ Trapping | | Fishing | None of the above | Other: |
| There is a large area just with | 18*: (Mark all that t | promote or | r impede recreational u | ses. Attach photos of evide | nce or unusual |
| currounding Condition | 1 | 1 | | - | 1 |
| urrounding Condition ems of interest.) EY 4-20-05 | ☐ Playgrounds | □ MDC | Conservation lands | ☐ Urban areas | ☐ Campgrounds |
| urrounding Conditionems of interest.) EY 4-20-65 EY 4-20-65 Boating accesses | ☐ Playgrounds ☐ State parks | ☐ MDC | C conservation lands | ☐ Urban areas ☐ Nature trails | 1 |
| urrounding Condition ems of interest.) EY 4-20-05 | ☐ Playgrounds | □ MDC | C conservation lands | ☐ Urban areas | ☐ Campgrounds |
| urrounding Condition ems of interest.) Ev 4-20-05 Ev 4-20-05 Boating accesses No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC | C conservation lands | ☐ Urban areas ☐ Nature trails | ☐ Campgrounds |
| urrounding Condition ems of interest.) EY 4-20-05 EY 4-20-05 Boating accesses No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC | C conservation lands | ☐ Urban areas ☐ Nature trails | ☐ Campgrounds |
| urrounding Condition ems of interest.) City/county parks EY 4-20-05 Boating accesses No trespass sign | ☐ Playgrounds ☐ State parks ☑ Fence | □ MDC □ Natio □ Steep | C conservation lands onal forests slopes | ☐ Urban areas ☐ Nature trails ☐ Other: | ☐ Campgrounds ☐ Stairs/walkway |

Page Two - Data Sheet B for WBID # 214 Stream Morphology: Upstream View Physical Dimensions: in Width (ft): ☐ Riffle Length (ft): Avg. Depth (ft): Max. Depth (ft): Width (Kg Length (K 🗷 Run Avg. Depth (N) Max. Depth (N Width (ft): ☐ Pool Length (ft): Avg. Depth (ft): Max. Depth (ft): Estimated (ft /sec): ☑ Flow Yes Present? □ No Downstream View Physical Dimensions: m > 0.09 <u>೧.ವಿಕ</u> ☐ Riffle Width (ft): Length (ft): Avg. Depth (ft): Max. Depth (ft): Width (N Nun Length (No. Max. Depth 10. 0.63n Avg. Depth (%): ☐ Pool Width (ft): Length (ft): Avg. Depth (ft): Max. Depth (ft): ☑ Flow Estimated (fi /sec): Yes Yes Present? □ No = 0.04 40-126s **3**\$7 39 Substrate*: (These values should add up to 100%.) % Cobble % Gravel % Sand % Silt 15 % Mud/Clay % Bedrock

| ۱q | uatic Vegetation* | : (note amou | int of vegetation or al | gal growth at the a | ssessment site) | |
|----|-------------------|--------------|-------------------------|---------------------|---------------------------------------|------|
| | Filamentous | algae | throughout. | | | |
| | <u> </u> | | | | · · · · · · · · · · · · · · · · · · · | |

Water Characteristics*: (Mark all that apply.)

| Odor: | □ Sewage | ☐ Musky | ☐ Chemical | None | ☐ Other: | |
|------------------|----------|----------|------------------|---------|----------|--|
| Color: | □ Clear | □ Green | □ Gray | ☑ Milky | Other: | |
| Bottom Deposit: | ☐ Sludge | □ Solids | ☐ Fine sediments | □ None | Other: | |
| Surface Deposit: | ⊠Oil | □ Scum | □ Foam | □ None | Other: | |

Comments: Please attach additional comments (including information from interviews) to this form.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

| Signed: CMCM | Date: 04->0-05 |
|------------------------------|--------------------------------|
| Organization: TEYNA TECH IN. | Position: AJJOCTATE SCHOOT #7. |
| EY 4-20-05 | |

September 29, 2004

Page 19

^{*}This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

MISSOURI RECREATIONAL USE STREAM SURVEY FIELD AUDIT CHECKLIST

| Evaluation Date: 4-20 | 0-05 | |
|---------------------------------------|------------------------------|----------------|
| | Audit Team Memb | er(s): |
| Name | Organization | Phone |
| Stacia Bax | MDMS | 573-526-7838 |
| | | |
| Site ID: 214 | Stream Name: | Teto Cr. |
| Field Team Members | | |
| 1 Chad | 3 | 5 |
| 2 1 00 | 4 | 6 |
| | Other Observers Present Duri | ng Evaluation: |
| Name | Organization | Рһопе |
| | | |
| · · · · · · · · · · · · · · · · · · · | | |
| | | |

start 10:18 am

(2°950)

2005 MAY 23 PM 3: 01
WATER PROTECTION PROGRAM

Mostly Ok ripalan 20mg deep pool Good to UK rock bank r i parian (andy near bridge frock bluff boulders 2% gravel 83% 511+-mud 15% algae = some bottom = murky clear water .173° F accessable from graves bar areas - steep slopes around bridge - been bother on Bridge...
- wind Dowing ope opposite direction of us flow-

AUDIT CHECKLIST

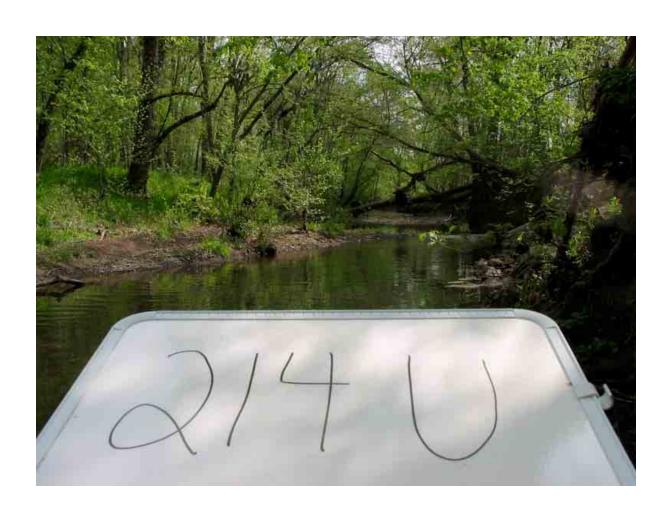
| GPS used to obtain fix at or near site? | (Y) | N | N/A |
|--|------------------------------|---|-------|
| GPS data recorded on field form? | | N | N/A |
| Photographs of site taken (if appropriate)? | (Y) | N | N/A |
| Placard with site ID printed on it is the first photograph? | Y | N | N/A |
| Picture file number recorded on Field Form? | Y | N | N/A |
| Mean channel width at X-site determined based on measurement? | (Ÿ) | N | N/A |
| Area around site inspected for evidence of primary contact recreational and other human uses? | (4) | N | N/A |
| Pictures of evidence of uses taken? | Y | N | (N/A) |
| Picture file number recorded on field forms? | Y | N | N/A |
| Measured upstream channel width at representative transect? | Y | N | N/A |
| Measured downstream channel width at representative transect? | (Y) | N | N/A |
| Measured average depth in upstream portion of the site? | (Y) | N | N/A |
| Measured maximum depth in downstream portion of the site? | $\langle \mathbf{y} \rangle$ | N | N/A |
| Was a reasonable effort made to locate deepest point at each site? | (X) | * | N/A |
| Velocity measured in the upstream portion of the site using a neutrally buoyant object along measured length timed and recorded correctly for at least three trials? | (Y) | N | N/A |
| Velocity measured in the downstream portion of the site using a neutrally buoyant object along measured length timed and recorded correctly for at least three trials? | (Y) | N | N/A |
| Does auditors assessment of substrate types and proportions at the site agree with that of the field team? | Y | N | N/A |
| Were interviews conducted with available residents? | Y | N | (N/A) |
| Are the field sheets filled out completely and signed at the end of the site assessment? | Y | N | N/A |
| Did the field team QC officer inspect the field forms for completion prior to leaving the site? | 0 | N | N/A |
| Overall, were the field sampling protocols followed correctly? | (Y) | N | N/A |
| · · · · · · · · · · · · · · · · · · · | | | |

SIGNATURES

Evaluator Date

Team Representative Date

Tetra Tech, Inc., Owings Mills, MD





Field Data Sheets for Recreational Use Stream Surveys

RECEIVED

Data Sheet B - Site Characterization

2005 MAY 23 PH 2: 59

(A separate data sheet must be completed for each site) WATER PROTECTION PROGRAM

| Missouri WBID #: a | | | Site Location De | escription: Over pass | off of |
|---|---|-----------------------|--|---|--------------------------------|
| Site GPS Coordinates: A | 138,51865° (| N0931 | ORNE 1130 | , | |
| Date & Time: 4 - 20 - | | | Facility Name: | Butler WWPT | middle flx Tebo (|
| Personnel: Chad B | arbour Lee \ | Yarbrous | Permit Number: | \$ 4-20-05 | 111100101 |
| Current Weather Conditi | ions: Clear 75'F | | , , | ions for Past 7 days: (p | ar, Warm |
| Photo Ids: Upstream: | 274 003 DOW | nstream: | 1728 A Othe | | 20, 100, 110 |
| ses Observed*: | CAS. | | Cers | | |
| □ Swimming | ☐ Skin diving | | SCUBA diving | ☐ Tubing | ☐ Water skiing |
| ☐ Wind surfing | ☐ Kayaking | | Boating | ☐ Wading | ☐ Rafting |
| ☐ Hunting | ☐ Trapping | | Fishing | None of the above | ☐ Other: |
| Describe: (include numb | er of individuals rec | reating, fre | equency of use, photo- | documentation of evidence | of recreational uses, etc.) |
| | | | | | |
| urrounding Conditionems of interest.) | ns*: (Mark all that p | promote or | impede recreational u | ses. Attach photos of evide | nce or unusual |
| urrounding Conditionems of interest.) | ns*: (Mark all that p | Π | impede recreational u | ises. Attach photos of eviden | nce or unusual |
| ems of interest.) | - | ☐ MDC | | <u>-</u> | T |
| City/county parks | ☐ Playgrounds | ☐ MDC | conservation lands | ☐ Urban areas | ☐ Campgrounds |
| cms of interest.) ☐ City/county parks ☐ Boating accesses | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC | conservation lands | ☐ Urban areas ☐ Nature trails | ☐ Campgrounds |
| ☐ City/county parks ☐ Boating accesses ☑ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC ☐ Natio | conservation lands | ☐ Urban areas ☐ Nature trails | ☐ Campgrounds |
| ☐ City/county parks ☐ Boating accesses ☑ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC ☐ Natio ☐ Steep | conservation lands nal forests slopes | ☐ Urban areas ☐ Nature trails ☐ Other: | ☐ Campgrounds ☐ Stairs/walkway |
| ems of interest.) ☐ City/county parks ☐ Boating accesses ☑ No trespass sign vidence of Human Us ☑ Roads | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/prin | ☐ MDC ☐ Natio ☐ Steep | conservation lands nal forests slopes Dock/platform | ☐ Urban areas ☐ Nature trails ☐ Other: ☐ Livestock Watering | ☐ Campgrounds ☐ Stairs/walkway |

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

September 29, 2004

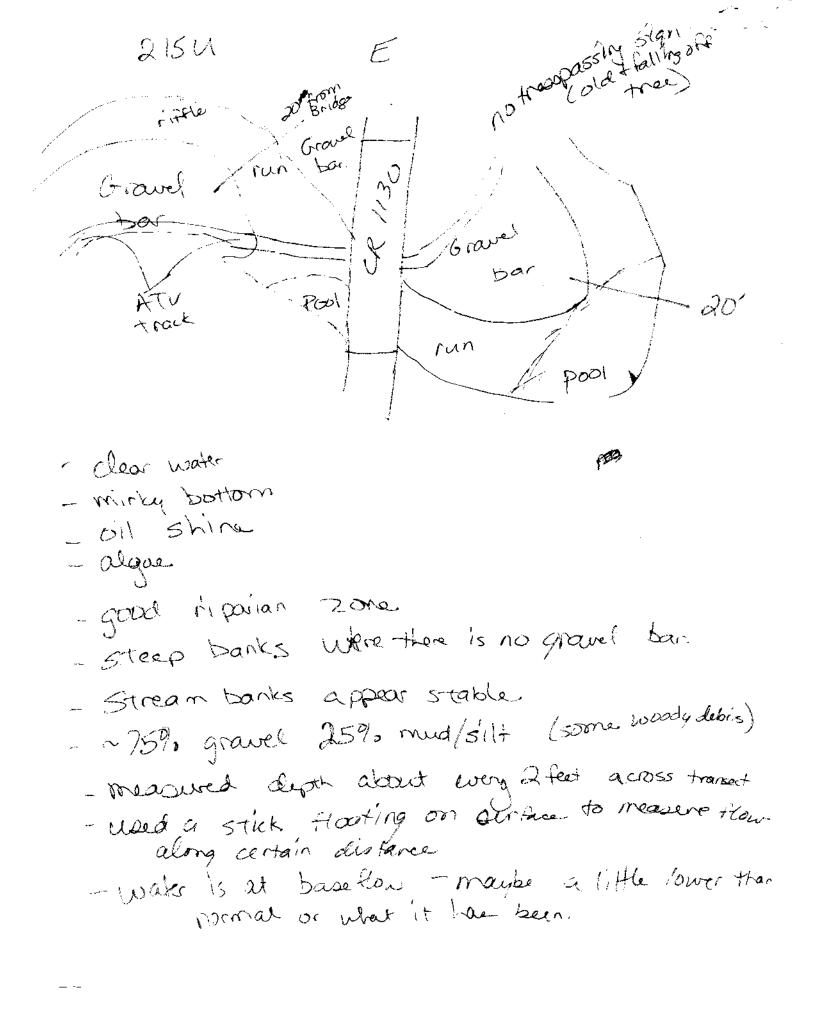
other items that may be of interest. (Include photographs)

| rage 1 wo - | Data S | neet B for v | ARID# <u> ♥ (.</u> | <u> </u> | | | |
|-------------------------------|------------------------|-----------------------------------|--|---|--|---------------------------------------|---------------------------------------|
| Stream Mor | nholoe | v: | | | 4-10-05 | | |
| | _ ~ | * | mensions: (),) | m. D.24m. D.3 | In \$7.7. | 35m.O.15m | |
| Riffle | Width (| (ft): | Length (ft): | Avg. Depth | | Max. Depth (ft): | |
| ⊠ Run | Width | 10:4.0 m | Length (N): | Avg. Depth | 0.23 | Max. Depth (N): |) 35 m |
| □ Pool | Width | (ft): | Length (ft): | Avg. Depth | | Max. Depth (ft): | 4. 1 |
| □ Flow | Present | ? ⊠ ´Yes | □ No | Estimated (f | * | | 15 |
| Darrantus | 1 72 | Tub1 | D! | EY 4-1 | , os (9- 29) | |) |
| □ Riffle | Width | ·= ·-····· | Dimensions: Length (ft): | .14m, 0.4m 7.6 | r - 12m, 0 | 08m, .32m | |
| Run | Width | | Length (ft): | Avg. Depth | · · · · · · · · · · · · · · · · · · · | Max. Depth (ft): | · · · · · · · · · · · · · · · · · · · |
| N Pool | Width | W 7 1 | Length (ft): | Avg. Depth | - | Max. Depth (ft): | |
| Flow | | | | Estimated (f | 1 0. 100 | , |).75m |
| LE FIOW | Present | : La Yes | □ No | limin | 28-46, | 35/3m = 0.05 | m is j |
| Su <u>bstrate*:</u> | (These | values should a | dd up to 100%.) | (7 | 85) (| (52s) (44s) | |
| 0 9 | 6 Cobble | 60 % | Gravel 20 | % Sand () | % Silt | (() % Mud/Clay | % Bedrock |
| Aquatic Veg | etation | l*: (note amoi | int of vegetation o | r algal growth at the asse | cement cite) | | |
| Algae | | | | (filamentous | | · | |
| 1,1,2,0 | 5.00 | ~".5" I | noognoo. | (Thornon's |). , | | |
| <u> </u> | | | | | | · · · · · · · · · · · · · · · · · · · | |
| Water Char | acteris | tics*: (Mark | all that apply.) | | | | |
| Odor: | | ☐ Sewage | ☐ Musky | ☐ Chemical | Mone ✓ None ✓ None Mone Mone | □ Other: | |
| Color: | | □ Clear | 🗹 Green | □ Gray | ☐ Milky | Other: | |
| Bottom De | posit: | □ Sludge | □ Solids | Fine sediments | □ None | ☐ Other: | |
| Surface De | posit: | ⊠ Oil | □ Scum | □ Foam | □ None | ☐ Other: | |
| <u> </u> | ъ. | | | | | | |
| Comments: | Please | attach additi | onal comments | (including informat | ion from inte | erviews) to this form. | |
| *This informati | on is not | to be used sol | ely for removal of | a recreational use design | ation but rathe | r is to provide a more | |
| decision on the | understa recreation | nding of water on use analysis | conditions. Consider the conditions of the conditions. | equently, this informatio conditions that need furth | n is not intende er analysis or t | ed to directly influence a | |
| | | | | | | | |
| i, the unders datasheet is | | | | of my knowledge, t | hat all infor | mation reported on | this UAA |
| | | m | - | | | | |
| Signed: | YVI C | 100 | | Date: | 04-20-05 | · | - |
| Organization | : <u> </u> | TA TEH | INC. | Position | n: August | CTENTIST | |
| | | | | | | | |
| | th | yabeta 30 | i yaninow | gh 4-20-05 | | | |
| | (|) | · (| J | | | |

MISSOURI RECREATIONAL USE STREAM SURVEY FIELD AUDIT CHECKLIST

| Evaluation Date: $4 - 20$ | 7-05 | |
|--|--------------------------------|--------------|
| Site # 215 | Audit Team Member(s |): |
| Name | Organization | Phone |
| Stacia Bax | MDUR | 573-526-783P |
| | | |
| <u> </u> | | |
| Site ID: | Stream Name: | |
| Field Team Members | | |
| 1 Chad | 3 | 5 |
| 2 00 | 4 | 6 |
| | Other Observers Present During | Evaluation: |
| Name | Organization | Phone |
| and the second s | | |
| | | |
| | | |
| | | |

WATER PROTECTION PROGRAM



ended as 10:00 mm

AUDIT CHECKLIST

| GPS used to obtain fix at or near site? | V | N | N/A |] |
|--|-------------------------|-----|------|-------------------------------------|
| GPS data recorded on field form? | E | N | N/A | |
| Photographs of site taken (if appropriate)? | $\overline{\mathbb{R}}$ | N | N/A | |
| Placard with site ID printed on it is the first photograph? | Y | N | N/A |] |
| Picture file number recorded on Field Form? | Y | N | N/A | 1 |
| Mean channel width at X-site determined based on measurement? | D | N | N/A | 1 |
| Area around site inspected for evidence of primary contact recreational and other human uses? | (¥) | N | N/A | 1 |
| Pictures of evidence of uses taken? | Y | N | NIA | } |
| Picture file number recorded on field forms? | Y | N | N/A) | |
| Measured upstream channel width at representative transect? | Y | N | N/A | |
| Measured downstream channel width at representative transect? | Ŷ | N | N/A | |
| Measured average depth in upstream portion of the site? | Ŷ | N | N/A | |
| Measured maximum depth in downstream portion of the site? | (2) | N | N/A | they went |
| Was a reasonable effort made to locate deepest point at each site? | Y | (N) | N/A | they went 20 m us + D.S. From |
| Velocity measured in the upstream portion of the site using a neutrally buoyant object along measured length timed and recorded correctly for at least three trials? | (V) | N | N/A | - they members |
| Velocity measured in the downstream portion of the site using a neutrally buoyant object along measured length timed and recorded correctly for at least three trials? | (Y) | N | N/A | this could be a fact inthem |
| Does auditors assessment of substrate types and proportions at the site agree with that of the field team? | (Y) | N | N/A | Methodi 1 |
| Were interviews conducted with available residents? | Y | N | N/A) | no one at |
| Are the field sheets filled out completely and signed at the end of the site assessment? | (2) | N | N/A | survey |
| Did the field team QC officer inspect the field forms for completion prior to leaving the site? | (Y) | N | N/A | • |
| Overall, were the field sampling protocols followed correctly? | (Y) | N | N/A | |
| | | | | |

SIGNATURES

Evaluator Date 1/20/05

Team Representative

Date

Tetra Tech, Inc., Owings Mills, MD





#1

Site identifier: SITE 216 AM wille Inhe TEBO a

Page 1 of 3

Field Audit Checklist

Field work for Use Attainability Analysis for Contact Recreational Beneficial Use in Missouri

Overview

This checklist documents observations by an auditor (not from the State of Missouri) for field work performed according to "Recreational Use Attainability Analysis Protocol", Missouri Department of Natural Resources, Water Protection Program, November 3, 2004, and, "Field Data for Use Attainability Analysis (UAA)s for Contact Recreation Beneficial Use in Missouri", Tetra Tech, March 8, 2005. The purpose of the audit is to document the extent to which the field team follow the procedures in the protocol and the QAPP. The auditor does not perform simultaneous activities specified in the protocol and the QAPP for the purpose of comparing results obtained by the auditor and the field team. The field work is conducted here under Contract No. EP-C-04-030, Work Assignment No. B-15.

Procedure

The auditor arranges with the field workers to meet and accompany the field team for one or more site visits. When the auditor first meets the field team on the day of the field audit, the auditor provides the field team with a copy of this checklist. The auditor accompanies the field team to one or more site visits scheduled for the day. At each site, the auditor observes the work of the field team, and marks this checklist as events are observed. A new checklist is completed for each different site visited and audited. At the end of each site visit, both the field team and the auditor sign and date this checklist, attesting that this audit was performed as represented by this checklist and the markings thereon. After the day's work is complete, the auditor provides xerox copies of the completed checklists to a designated representative of the field team, and sends the original completed checklists to the State of Missouri,

Checklist

21 am 05

Time of arrival at site: 8:47 Am

Identifier of site: 2-16

Date: 21 on as Site identifier: 216

Page 2 of 3

- 1. (Protocol pg. 16) Does the field team have a 7.5 minute USGS topographic quadrangle map for the location of this site?
- 2. (Protocol pg. 16) Does the field team measure and record location of the site using a GPS unit?
- 3. (Protocol pg. 16) Are the GPS location data recorded in UTM, NAD 83? I reges until seconds
- 4. (Protocol pg. 16) Are the start and end points(upstream and downstream coordinates) recorded on Data Sheet A?
- 5. (Protocol pg. 16) Are the narrative site assessments recorded on the forms provided in the protocol?
- 6. (Protocol pg. 16) Is information for this site recorded on a new form?
- 7. (protocol pg. 16) Is a photographic record made of this site?
- 8. (Protocol pg. 16) Do the photographs include an upstream view and a downstream view? ** **V=**
- 9. (Protocol pg. 16) If the team discovers evidence of observed or potential use, is a photograph taken documenting the evidence? NA
- 10. (Protocol pg. 16) Are the photographs catalogued in the field notes in a manner that indicates site location?

 date?

 view orientation? We what is being shown? We
- 11. (Protocol pg. 16) If people are present, does the field team interview the people?
- 12. (Protocol pg 16) If an interview occurs, does the field team obtain and record in the field notes

 history of the water body?

history of the water body? legal name of person interviewed? address of person interviewed?

- 13. (Protocol) At the end of the site observation, is Data Sheet A (one sheet) completed and signed? NZ
- 14. (Protocol) At the end of the site observation, is Data Sheet B (two sheets) completed and signed?
- 15. (QAPP pg 13) Does the field team have a list of equipment and expendable supplies? W2-

- 16. (QAPP pg 13) Does the field team have backup equipment? wo
- 17. (QAPP pg 13) Have any battery-powered equipment been fully charged?
- 18. (QAPP pg 14) If the field team notices any deviations from the planned survey, does the field team record the deviations on the field forms? PA
- 19. (QAPP pg 14) Are all entries made in ink with no erasures?
- 20. (QAPP pg 14) Are any incorrect entries crossed out with a single strike mark, initialed and dated? Je
- 21. (QAPP pg 14) Are all field data sheets filled out completely? Use
- 22. (QAPP pg 14-15) Are the completed field sheets signed? Y2_
- 23. (QAPP pg 15) Is this a replicate visit (for precision of field measurements)?
- 24. (QAPP pg 15) If evidence of recreation use is obvious, do the Field Team Leader and the Field QC Officer agree? NA
- 25. (QAPP pg 18) Does the field team have documentation or other evidence that the measurement equipment is in working order?
- 26. (QAPP pg 19) Does the field team have documentation or other evidence that the GPS unit has been checked for accuracy? no

Signatures

We, the undersigned, hereby affirm, to the best of our knowledge, that this audit occurred and that the marking on this checklist accurately represent the audit results.

Two Pinder 21 amos

Field Team member 1: CMUM 04/2/105

Elizabeth Le Yarbrough 4-21-2005

Field Team member 3:

Field Team member 4:

Field Data Sheets for Recreational Use Stream Surveys

RECEIVED

Data Sheet B - Site Characterization

2005 MAY 23 PM 2: 59

(A separate data sheet must be completed for each site)

WATER PROTECTION PROCESAL

| | Missouri WBID #: 216 | | | Site Location D | | | |
|------|--|---|-----------------------------------|--|--|--|--|
| | Site GPS Coordinates: N | | 61217 | | | | |
| L | Date & Time: 4/20/65 | | | Facility Name: | Bolle WHOTP 1 | niddle flx Teba | |
| Ŀ | Personnel: CHAB BANG | OUR. LEE YARBAN | 164 | Permit Number: | | | |
| | Current Weather Conditi | | | | ions for Past 7 days: CLEAR | WARM | |
| Ľ | Photo Ids: Upstream: | | vnstream: T | | r: | | |
| Jse | s Observed*: | <i>2</i> (6 | | CED | | | |
| L | ☐ Swimming | ☐ Skin diving | D s | SCUBA diving | ☐ Tubing | ☐ Water skiing | |
| L | ☐ Wind surfing | ☐ Kayaking | D E | Boating | □ Wading | ☐ Rafting | |
| | ☐ Hunting | ☐ Trapping | | ishing | None of the above | ☑ Other: | |
| | <u>-</u> | | | | | | |
| em: | s of interest.) | _ | <u> </u> | | uses. Attach photos of evide | | |
| em: | s of interest.) City/county parks | ☐ Playgrounds | □ мос | conservation lands | uses. Attach photos of evide | nce or unusual | |
| iem: | □ City/county parks □ Boating accesses | ☐ Playgrounds ☐ State parks | ☐ MDC | conservation lands | | <u> </u> | |
| iem: | s of interest.) City/county parks | ☐ Playgrounds | □ мос | conservation lands | ☐ Urban areas | ☐ Campgrounds ☐ Stairs/walkway | |
| em: | □ City/county parks □ Boating accesses | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC | conservation lands | ☐ Urban areas ☐ Nature trails | ☐ Campgrounds ☐ Stairs/walkway | |
| em | □ City/county parks □ Boating accesses □ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC ☐ Nation | conservation lands | ☐ Urban areas ☐ Nature trails | ☐ Campgrounds ☐ Stairs/walkway | |
| em: | s of interest.) ☐ City/county parks ☐ Boating accesses ☐ No trespass sign dence of Human Us | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC ☐ Nation ☐ Nation ☐ Steep s | conservation lands nal forests slopes | ☐ Urban areas ☐ Nature trails ☐ Other: CATTLE / DA | ☐ Campgrounds ☐ Stairs/walkway | |
| èvic | s of interest.) ☐ City/county parks ☐ Boating accesses ☐ No trespass sign dence of Human Use ☐ Roads | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/prin | ☐ MDC ☐ Nation ☐ Nation ☐ Steep s | conservation lands nal forests slopes Dock/platform | ☐ Urban areas ☐ Nature trails ☐ Other: CATTLE / DA | ☐ Campgrounds ☐ Stairs/walkway ☐ FAM | |

Page Two - Data Sheet B for WBID #___:

| | | nensions: 0,09 | | | 5m, 0.26m | |
|---|---|--|---|--|--|-----------------|
| □ Riffle Width | (ft): | Length (ft): | Avg. Depth (| ft): | Max. Depth (ft): | |
| □ Run Width | | Length (ft): | Avg. Depth (| ft): | Max. Depth (ft): | |
| Pool Width | 1.5.4m | Length (10): 2 | Om Avg. Depth (| 0.524n | Max. Depth (10: 0. | >5 _M |
| Flow Present | ? 🗆 Yes | ⊠ No | Estimated (ft | 3/sec): Slow | moving pool | |
| Downstream Vie | w Physical l | Dimensions: (). | lm, oam, O | 22m, 0.28 | 3n.0.09m | |
| □ Riffle Width | (ft): | Length (ft): | Avg. Depth (| | Max. Depth (ft): | |
| □ Run Width | (ft): | Length (ft): | Avg. Depth (| ft): | Max. Depth (ft): | |
| Pool Width | 16:5 _m | Length (t):) | Om Avg. Depth (| Ø 0.178v | Max. Depth (6): 8, | 38W |
| ☐ Flow Present | t? □ Yes | No VERY SLO | ω ∾οντικε Estimated (ft | ³/sec): | | |
| ostrate*: (These | values chould a | dd un to 100% \ | Paoi | | | |
| () % Cobble | | Gravel 40 | % Sand 30 | % Silt 10 | 0 % Mud/Clay | % Bedro |
| ter Characteris | stics*: (Mark a | ill that apply.) | | | | |
| Odor: | □ Sewage | ☐ Musky | ☐ Chemical | ☑ None | ☐ Other: | |
| Color: | ☐ Clear | ☐ Green | ☐ Gray | Milky | ☐ Other: | |
| | | | | | | |
| Bottom Deposit: | □ Sludge | ☐ Solids | Fine sediments | □ None | Other: | |
| Bottom Deposit: Surface Deposit: | □ Sludge | ☐ Solids ☐ Scum | ☐ Fine sediments | □ None □ None | ☐ Other: | |
| Surface Deposit: mments: Please his information is no apprehensive underst ision on the recreati the undersigned tasheet is true a | ☐ Oil attach additi t to be used solution of water on use analysis , hereby affind accurate. | onal comments (ely for removal of a conditions. Conse but may point to co | ☐ Foam (including information recreational use design quently, this information on the design of my knowledge, to the design of the design o | None ion from internation but rather is not intended aer analysis or the | Other: rviews) to this form. is to provide a more it to directly influence a nat effect another use. mation reported on the | his UA |
| Surface Deposit: omments: Please his information is no hiprehensive underst hision on the recreati the undersigned tasheet is true a gned: | attach additi to be used solution use analysis hereby affi nd accurate. | onal comments (ely for removal of a conditions. Conse but may point to co | ☐ Foam (including information recreational use design quently, this information on ditions that need furth of my knowledge, the | ion from internation but rather is not intended her analysis or the hat all information of the control of the c | Other: Tviews) to this form. is to provide a more it to directly influence a nat effect another use. mation reported on the | _ |
| Surface Deposit: mments: Please his information is no apprehensive underst ision on the recreati he undersigned tasheet is true a | attach additi to be used solution use analysis hereby affind accurate. | onal comments (ely for removal of a conditions. Conse but may point to co rm to the best of | including information recreational use design quently, this information on ditions that need furth of my knowledge, to | None ion from internation but rather is not intended are analysis or the hat all information of the control of | Other: rviews) to this form. is to provide a more it to directly influence a nat effect another use. mation reported on the state of | _ |
| Surface Deposit: mments: Please his information is no apprehensive underst ision on the recreati he undersigned tasheet is true a | attach additi to be used solution use analysis hereby affind accurate. | onal comments (ely for removal of a conditions. Conse but may point to co rm to the best of | ☐ Foam (including information recreational use design quently, this information on ditions that need furth of my knowledge, the | None ion from internation but rather is not intended are analysis or the hat all information of the control of | Other: rviews) to this form. is to provide a more it to directly influence a nat effect another use. mation reported on the state of | _ |





Field Data Sheets for Recreational Use Stream Surveys

RECEIVED

Data Sheet B - Site Characterization

2005 MAY 23 PM 2: 59

(A separate data sheet must be completed for each site) HATER PROTECTION PROGRAM

| | 16 Revisit | | | | |
|--|--|---|--|--|---|
| Site GPS Coordinates: | 128 64300 1.100 | 7 ///20 | TR+2 ove | BrD95S | |
| Date & Time: 4 21- | 20 <i>05</i> 8:55 | | Facility Name: | | - 60 |
| D | F1 U | <i>7</i> - [11 | Facility Name: Middle FK TeboCR Permit Number: | | |
| Current Weather Condit | | 1.1 180 | | ons for Past 7 days: | |
| Photo Ids: Upstream: | SEUA Dow | nstream: +7 | 53 ∆ 624 Other | | |
| <u> </u> | CON | <u>-</u> | CKO | ··· | |
| Uses Observed*: | | | <u></u> | | |
| ☐ Swimming | ☐ Skin diving | □ sc | CUBA diving | ☐ Tubing | ☐ Water skiing |
| ☐ Wind surfing | ☐ Kayaking | □Во | pating | ☐ Wading | ☐ Rafting |
| ☐ Hunting | ☐ Trapping | ☐ Fis | | None of the above | ☐ Other: |
| Describe: (include num | er of individuals recu | reating, frequ | ency of use, photo- | documentation of evidence | of recreational uses, |
| Maximum dept | h of pool | 0.90m | in down stra EY 4-21-2005 | eam portion (Extr | a data within h) |
| Maximum dept | h of pool | 0.90m | in down stra EY 4-21-2005 | eam portion (Extreac | a data within h) |
| Maximum dept | h of pool | O. 90m | in down stra EY 4-21-2005 | | a data within h) |
| Surrounding Condition tems of interest.) | ns*: (Mark all that p | O. 90m | in doubt stra EY 4-21-2005 npede recreational u | ises. Attach photos of evider | a data within h) |
| Surrounding Condition tems of interest.) □ City/county parks | ns*: (Mark all that p | oromote or in | in down street 4-21-2005 uppede recreational uppede recreation lands l forests | ises. Attach photos of evider | a data within h) |
| Surrounding Condition tems of interest.) City/county parks Boating accesses No trespass sign | ns*: (Mark all that p Playgrounds State parks | oromote or in MDC co | in down street 4-21-2005 uppede recreational uppede recreation lands l forests | Ses. Attach photos of evider ☐ Urban areas ☐ Nature trails | a data within h) |
| Surrounding Condition tems of interest.) City/county parks Boating accesses | ns*: (Mark all that p Playgrounds State parks | oromote or in MDC co | in down street 4-21-2005 uppede recreational uppede recreation lands l forests | Ses. Attach photos of evider ☐ Urban areas ☐ Nature trails ☐ Other: | a data within h) nce or unusual Campgrounds Stairs/walkway |
| Surrounding Condition tems of interest.) City/county parks Boating accesses No trespass sign Evidence of Human U | ns*: (Mark all that p Playgrounds State parks Fence | O. 90m oromote or in MDC co Nationa Steep slo | in down street 4-21-2005 uppede recreational uppede recreation lands l forests uppes | Ses. Attach photos of evider ☐ Urban areas ☐ Nature trails | a data within h) |

* Additional data from area with in reach

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two - Data Sheet B for WBID # 216 Revisit.

| | nensions: (_)() |). A 15 (7 6A | 0.78 0 | 32 in mal | 2 |
|--|---|--|--|---|--|
| | Length (ft): | , , , , , , , , , , , , , , , , , , , | | Max. Depth (ft): | |
| (ft): | Length (ft): | Avg. Depth | (ft): | Max. Depth (ft): | ···· |
| 16:53m | Length (fil: 2) | Om Avg. Depth | (N: 0.394) | m Max. Depth (1): | 0.78m |
| it? 🗀 Yes | Ø No | | | | |
| ew Physical I | Dimensions: () | 15, 0,18, 0,20 | 0.25.0 | 16 in motor | <u></u> |
| | Length (ft): | | , . | Max. Depth (ft): | |
| | Length (ft): | | (ft): | Max. Depth (ft): | |
| \$5.0m | Length (h) | Om Avg. Depth | 0.188 | Max. Depth (N): | 0.25m |
| it? 🗀 Yes | tXNo | · · · · · · · · · · · · · · · · · · · | | | 910077 |
| n*: (note amour | Gravel 3(|) % Sand 30 | <u> </u> | 多人% Mud/Clay | % Bedrock |
| stics*: (Mark al | l that apply.) | ☐ Chemical | None | ☐ Other: | |
| □ Clear | ☐ Green | □ Gray | Milky | Other: | |
| □ Sludge | □ Solids | Fine sediments | ☐ None | ☐ Other: | |
| Œ X Oil | □ Scum | □ Foam | ☐ None | Other: | |
| t to be used solel anding of water o on use analysis b , hereby affir | y for removal of a conditions. Consecut ut may point to co m to the best o | recreational use designmently, this information inditions that need furth from knowledge, t | nation but rather on is not intended ner analysis or th that all inform | is to provide a more d to directly influence at effect another use. nation reported o | a . |
| | ew Physical I (ft): Some Physical I (ft): (ft): (ft): Some Physical I (ft): (ft): (ft): (ft): (ft): (ft): Some Physical I (ft): (ft): | Physical Dimensions: () (C) (ft): Length (ft): (ft): Length (ft) | Physical Dimensions: () 10, 0.15, 0.62, (ft): Length (ft): Avg. Depth (ft): Length (ft): Avg. Depth (ft): Jength (ft): Avg. Depth (ft): Jength (ft): Avg. Depth (ft): Length (ft): Avg. Depth (ft | Physical Dimensions: () 0 0 5 0 6 0 78 (ft): (ft): Length (ft): Avg. Depth (ft): (ft): Length (ft): Avg. Depth (ft): (ft): Length (ft): Avg. Depth (ft): 0 3944 (ft): S 0 No Estimated (ft ³ /sec): (ft): Length (ft): Avg. Depth (ft): (ft): Values should add up to 100%.) (ft): Length (ft): Avg. Depth (ft): 0 88 (ft): Avg. Depth (ft): O 89 (ft): Avg. Depth (ft): O 99 (ft): Avg. Depth (ft): O | Physical Dimensions: (10, 15, 0.63, 0.78, 0.32 in meters (ff): Length (ff): Length (ff): Avg. Depth (ff): Max. Depth |





MISSOURI RECREATIONAL USE STREAM SURVEY FIELD AUDIT CHECKLIST

| Evaluation Date: 4-2 | 0-05 | E Tebasa | | | |
|-----------------------|-----------------------------|------------------|--|--|--|
| Audit Team Member(s): | | | | | |
| Name | Organization | Phone | | | |
| Stacia Bax | MOUR | 573-526-7838 | | | |
| | | | | | |
| Site ID: 216 | Stream Name: | | | | |
| Field Team Members | | | | | |
| 1 Chad | 3 | 5 | | | |
| 2 Lea | 4 | 6 | | | |
| | Other Observers Present Dur | ring Evaluation: | | | |
| Name | Organization | Phone | | | |
| | | | | | |
| · <u></u> | | | | | |
| | | | | | |

2005 MAY 23 PH 3: 00 WATER PROTECTION PROGRAM

Finished 9:19 am Gener across creek - not in good actually measured actually measured windth How arou forn F. St. botrom Signs of Cattle aom Socking 2 debils Thursy water Somewax inc. Fleasa Boxwhoert - Some troom in week least branch coorei double bridge. by ho recention indicate site Him picture. but no 5% dubis wed a norter board to 9511# 2160 -00 bble woody dubis 5%, US cobble Farm land immediately around in. treet the more removed from rifer man -50m 514 60% Jeens a seems a little more - good riparion zona

Site# 216 WWIP Butter WWIP

AUDIT CHECKLIST

| GPS used to obtain fix at or near site? | V | N | N/A | |
|--|------------|-------------|-------|----------|
| GPS data recorded on field form? | (Y) | N | N/A |] |
| Photographs of site taken (if appropriate)? | (Y) | N | N/A | 1 |
| Placard with site ID printed on it is the first photograph? | (D) | N | N/A | 1 |
| Picture file number recorded on Field Form? | (Ŷ) | N | N/A | 1 |
| Mean channel width at X-site determined based on measurement? | (Y) | N | N/A | 1 |
| Area around site inspected for evidence of primary contact recreational and other human uses? | Ŷ | N | N/A | |
| Pictures of evidence of uses taken? | Y | N | (N/A) | 1 |
| Picture file number recorded on field forms? | (Y) | N | N/A |]. |
| Measured upstream channel width at representative transect? | (Y) | N | N/A | |
| Measured downstream channel width at representative transect? | Ŷ | N | N/A | |
| Measured average depth in upstream portion of the site? | (Y) | N | N/A | |
| Measured maximum depth in downstream portion of the site? | (Ÿ) | N | N/A | |
| Was a reasonable effort made to locate deepest point at each site? | (Y) | N | N/A | |
| Velocity measured in the upstream portion of the site using a neutrally buoyant object along measured length timed and recorded correctly for at least three trials? | Y | (N) | N/A | not much |
| Velocity measured in the downstream portion of the site using a neutrally buoyant object along measured length timed and recorded correctly for at least three trials? | Y | (N) | N/A | area. |
| Does auditors assessment of substrate types and proportions at the site agree with that of the field team? | (Y) | N | N/A | |
| Were interviews conducted with available residents? | Y | N | N/A) | |
| Are the field sheets filled out completely and signed at the end of the site assessment? | (Y) | N | N/A | |
| Did the field team QC officer inspect the field forms for completion prior to leaving the site? | Y | N | N/A | |
| Overall, were the field sampling protocols followed correctly? | ZY. | N | N/A | |
| | | | | |

SIGNATURES

| Stacio Bar | 4/20/05 |
|---------------------|---------|
| Evaluator | Date |
| Team Representative | Date |

Tetra Tech, Inc., Owings Mills, MD